METHODS FOR PRODUCTION OF THE OXIDIZED GLUTATHIONE COMPOSITE WITH CIS-DIAMMINEDICHLOROPLATINUM AND PHARMACEUTICAL... Leonid A. Kozhemyakin, et al. Serial No.: 10/747,855 Docket No.: P0633.70014US01 MUI 1 3 ZODA EL 1 5 2004 who have low numbers of neutrophils due to chemotherapy. stimulates the production of metrophils and is given to patients GM-CSF to pumpout huge amounts of TNF when they are recruited to the scene with TNF-siphs hemorrhage, soften and turn black. Macrophages begin dastroys cancer cells, but does not hurt healthy cells. Tumors injected of Injury or infection. TNF-alpha In 1996, Biogen received FDA approval to market AVONEX for multiple scienosis. Chart 3: Cytokines Stimulated by Drug warts, Kapost's sarcoma, halry cell leutemia and malignant melanoma. alpha and gamma activates cells effective in treating several forms of hepatitis, genital Interferon is secreted by
8 cells and macrophages
and acts in synergy
with IL-2 to activate eytotoxie T cells.
Natural Killer cells
and Thit cells are also
stimutated to proliferate by IL-12. Interleukin-12 (IL-12) Fig. 27. Cytokines Stimulated by Drug downregulates MHC II
expression on artigen
presenting cells.
It triansets with II-4 macrophages to inhibit cytokine production to downregulate suppresses cytokine production from T cells and macriphages. It exerts complex to decrease macro-phage infammatory activity. regulatory effects on CDA+ Toells, Natural Killer cells, vascular endothelbi This type of Thelper cells. It is released by Th2 helper cells and also ce ils and
B lymphocytes.
Il.-10 plays an
Important inVibitory Interleukin-10 role and acts on (IL-10) adhen to vascular endobellal cells. This helps neutrophils marginate and enter and are found in all areas of infection. infection. Neutrophils are the first line of endothelial cells secrete IL-8 in order to attract ne utrophils and allow them to the tissue where they are needed, especially during inflammation and is a powerful chemotactic factor for neutrophils. Macrophages and defense against invading bacteria Interfeukin-8 (H-8) number of undescribed ways in tefammatory regulation. stimulates artibody secretion. Myeloid stam cells are helped to differentiate by IL-6. It also strongly stimulzes he patocytes to make acute phase proteins in response to inflammation. This cytokine is always found in increased acts on proliferating

B celts to promote differentiation into plasma celts and it kevels in sites of inflammation and is likely very important in a is secreted by monocytes, macro-phages and bone marrow cells. It Interleukin-6 (F-6) is released by
Thelper cells of the THZ
subtype and is
particularly active regulatory manner to decrease the activity of activated macrophages. E-4 Increases MMC II
expression. On
activated B ce its,
profite ration and on resting and active 8 cells. On resting 8 cells and on macrophages differentiation is stimutated and an antibody class switch is induced. A B cell stimulated with IL-4 alone becomes a plasma cell secreting lgE and other allergy-related artibodies. IL-4 acts with IL-10 is an immuno-Interleukin-4 (E.4) to B-2 to create
hymphocyta activated
itilier on its which
are re-injected into the body, then killer ce its will attack the cancer and destory it. or iddney cancer have been retrieved from the body and exposed in the lab by cancer andgens so only those lymphocytes that recognize cancer cells would receive IL-7's chemical and stimulates fymphocytes that have already been activated message to expand. For example, is produced by fymphocytes.
It is a T-cell growth factor T-tymphocytes exposed to malignarid melanoma Interleukin-2 (11.2)framure responses usually associated with non-specific framure response is produced by monocytes, macrophages and dendriffe cells, of infection and inflammation, and fever. Interfeukin-1 (IL-1) R activates lymphocytes and thereby regulates